Comments on the Minerals Management Service (MMS) Advanced Notice of Proposed Rulemaking (ANPR) Alternate Energy-Related Uses on the Outer Continental Shelf, Docket No. RIN 1010-AD30

February 28, 2006

Executive Summary

Wind energy is one of the fastest-growing energy technologies in the world. In 2005, more than 2,400 megawatts (MW) of wind energy capacity was installed in the U.S., with 59,322 MW installed worldwide. Wind energy is also one of the cleanest, most environmentally friendly energy technologies that exist today. And continuing policies that encourage renewable energy to compete with traditional fossil fuel generators will only grow the demand for wind energy. As wind energy technology enters mainstream markets, the need for additional economically viable project sites has grown and the global industry is turning more to offshore wind resources.

As recognized by the recent Report of the U.S. Oceans Commission on Ocean Policy and Section 388 of the Energy Policy Act of 2005, offshore wind projects offer great promise for the American market, especially in the long-term, to provide clean, emissions-free electricity closer to the load coastal centers where electricity demand is the greatest. The MMS must realize, however, that offshore wind technology is still in its infancy; and today's turbines can be installed on a technically and commercially viable basis only at a very limited number of offshore sites, such that it would premature to focus upon any programmatic development that would presume widespread viability on the Outer Continental Shelf (OCS) in the near future.

More specifically, unlike the European experience, very few sites on the American OCS possess the unique combination of attributes required for technically and economically viable offshore wind projects. For the foreseeable future, offshore wind projects will require sites that are relatively close to shore, with relatively shallow water depths, favorable current and wave conditions, a good wind resource, and suitable transmission access to the wholesale power grids. Although in the future new foundation designs and other technological achievements may cause additional sites to become feasible further offshore, such developments remain speculative and may not occur for more than a decade, if at all. AWEA thus urges MMS to first facilitate and expedite the permit review of those relatively few OCS wind projects that will be viable in the foreseeable future. To the extent that MMS also finds it necessary to also develop any development "program" or programmatic environmental review that presumes future widespread activity on the OCS, it should do so in a manner that does not delay or impede the permitting of those few projects that are feasible under today's conditions.

One key concern for the U.S. wind industry with regard to offshore wind energy is the timely review of projects. As is clear from the offshore wind energy projects currently proposed, there are numerous ways a project can be delayed, including the intentional misuse of the environmental review process. If undue delay is allowed into the process, offshore wind energy development will simply not develop in the U.S., irrespective of it's potential or merits. Accordingly, a rulemaking that creates a workable framework

must encourage the prompt review of the handful of OCS offshore wind projects that will be viable in the near-term, and then also allow for the future development of offshore wind energy's full potential to provide clean, reliable and competitive renewable energy to the U.S.

Phase two of development for offshore wind, however, may well be in the area of deep-water technology. Several different alternative designs have are being explored, including tripods, quadrupile, guide line support systems to a monopole, and floating foundations with guide lines. None of these designs, however, have yet been tested and will not be commercially viable or insurable in the foreseeable future (if at all), and it could take decades to prove their design capabilities to justify the large capital investments need to build offshore wind projects. Accordingly, while MMS should foster such potential future developments, it must not allow such efforts to frustrate or delay the limited number of projects that could be viable within the foreseeable future.

About AWEA

The American Wind Energy Association (AWEA), formed in 1974, is the national trade association of the U.S. wind energy industry. The association's membership includes turbine manufacturers, wind project developers, utilities, academicians, and interested individuals. More information on AWEA and wind energy is available at the AWEA web site: www.awea.org

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Question #1. Are there regulatory regimes, either in the U.S. or abroad, that address similar or related issues that should be reviewed or considered as MMS moves forward with the rulemaking process?

Most importantly, MMS should refer to the BLM's recent two-stage development of land-based approach for wind energy development as a useful model. Before commencing such process, the BLM first considered a number of projects on an individual application basis, which allowed the agency to gain experience and familiarity with the industry prior attempting to establish any development program. On October 16, 2002, the BLM then issued its Interim Wind Energy Development Policy, which, importantly, was designed to not interfere with pre-existing and ongoing development efforts, and which continued to review permit proposals made by industry (i.e., on a "first come" basis), concluding that "the processing of wind energy right-of-way applications on a first come basis is consistent with the President's National Energy Policy and will encourage the access to public lands for renewable energy resource assessments and development." The same rationale should apply in this case. The BLM then proceeded to undertake a programmatic review with the objective "to streamline the application and review process", with BLM officials publicly stating that such process would "not impede" the continuing review of the approximately 60 applications then pending before the agency. Notably, the BLM's resulting development policy still relies heavily upon the acumen and innovation of American industry to identify potentially viable sites for development, and appropriately recognizes that in the U.S. electrical generation is a highly competitive field that requires integration into American wholesale power markets, which recently have been restructured for the express purpose of moving away from central planning in order to encourage entrepreneurial and innovative approaches.

MMS should also recognize that European models might be of limited application to the U.S. offshore renewable industry. First, many European nations have not yet undertaken the above-referenced approach of restructuring their wholesale power markets towards competitive initiative and entrepreneurial innovation, and accordingly rely more on central planning than would be appropriate for the U.S. markets. Second, as also noted above, the European OCS presents a very different physical

challenge for offshore wind, in that its markedly more gradual depth progression yields many more European sites that are viable with today's technology. The European OCS is thus far more likely to allow the identification of wide areas that could potentially include multiple viable projects sites. In contrast, on the OCS of the U.S., the challenge will be to identify any individual sites that could be viable – a difficult and time-consuming undertaking far more suited to the technical and business acumen of industry.

The MMS should also note that, in this regard, the development of renewable energy on the American OCS is fundamentally different from the U.S. experience with offshore oil and gas, which are not subject to same restraints that seriously limit the number of viable sites. Thus, the MMS will not be able to identify, as it does for oil and gas, wide areas within which numerous potential sites would be viable for renewable projects. Rather, the American approach for renewable energy on the OCS must focus on those individual sites that could be viable within the foreseeable future (and which will likely be both few and dispersed), and the identification of such sites should depend primarily upon to the commercial acumen of the American industry.

Also see the "Program Area: Payments & Revenues" section, below, for discussion of how European models have appropriately recognized the nascent stage of the offshore renewable industry with respect to compensation provisions.

Additional European resources are listed below:

- Crown Estate from the United Kingdom: www.crownestate.co.uk
- *Future Offshore: A Strategic Framework for the Offshore Wind Industry;* Department of Trade and Industry (UK), 2002.
- *Guidance Notes: Offshore Wind Consents Process;* Department of Trade and Industry (UK), 2004.
- *Enabling Offshore Wind Developments;* European Wind Energy Association, 2002.
- *A Framework for Offshore Wind Energy Development in the United States;* Massachusetts Technology Collaborative, GE, U.S. Department of Energy, 2005.

Program Area: Access to OCS Land & Resources

AWEA views the overall process for appropriate access to OCS as follows:

- MMS identifies the entire OCS as available for offshore wind development, within existing statutory requirements, and requests applications for projects at potentially viable sites over the entire area.
- Project proponents approach MMS with proposals for specific areas of development.
- MMS grants Wind Resource Evaluation Leases for 3-year increments to developers so that proprietary wind, substrate, and environmental data can be collected.
- At the end of the Evaluation Lease, a developer has the option to enter into a Wind Power Production Lease for the identified site. No other private interest could develop that lease site unless the original developer chose not to do so at the conclusion of the Evaluation Lease.
- If the developer chooses not to develop the site, any information collected under the Evaluation Lease is available to other pre-qualified companies that may then bid on that proposed project area.

- If the developer does choose to develop the site, MMS and the entity enter into a Wind Power Production Lease. The clock starts and the developer must begin project construction within a set time, or forfeit the right to that lease. MMS should also consider that in the current state of the American power markets, it is unlikely that offshore wind energy projects could be commercially developed on a phased basis. The fully proposed project size and output will often be required in order to amortize the relatively high cost of transmission and infrastructure to the extent necessary to create a commercially viable entity that could attract investment of the requisite capital. Partial projects (or projects where full development remains contingent) will thus typically not be feasible in the commercial American power industry.
- At the end of the project life, if no repowering opportunities exist, the project operator should commence the decommissioning plan.

As detailed in the specific questions below, AWEA suggests that MMS should not focus on geographic regions because the number of viable project sites is small in the near-term. The best use of MMS resources through this rulemaking process in the near term is to create a framework to expeditiously evaluate and approve project leases applications from industry in all areas of the country's OCS.

Wind energy projects need not conflict with other uses of the OCS. Careful project planning can allow for multiple uses of a lease area.

Question #2. Possible development scenarios include phased access rights, which would allow for resource and/or site assessments and research prior to securing additional access rights. Rights could be permitted on a case-by-case basis. Development rights would be secured by a competitive process. An alternative would be to require that interested parties secure the access rights to an area prior to conducting assessments and research. Please comment on these possible options.

- It is economically infeasible for a wind project developer to work to gain access rights in the OCS for resource evaluation purposes (often a multi-year undertaking involving millions of dollars of high-risk investment) if project development rights are later auctioned off in a competitive bidding arrangement.
- Allow developers to submit proposals for a location and sign a Wind Resources Evaluation Lease with provisions that would allow conversion by the developer to into a Wind Power Production Lease at the end of the evaluation term. Competing project proposals, if any, could be decided based on applicant qualification and strength of the proposal.
- Any advance baseline resource or site assessment data collected under the Evaluation Lease should be proprietary to the developer. If the development company later decided, at the end of the Wind Resource Evaluation Lease, that the company did not wish to pursue that site, the data collected could then become available to other pre-qualified companies.
- Leave the primary role of identifying sites to pursue to the applicants, especially in the near-term, where the acumen of industry can best evaluate potential site viability by commercial analysis of factors including engineering, construction, wind resource, transmission, tax impact and wholesale power market considerations. (See the "Program Area: Payments & Revenues" section below for discussion of related compensation issues.)
- Much of the most general information on the seabed conditions, transmission lines, and wind resource information is currently publicly available.

Question #3. In cases where applicants or interested parties' propose activities that would foreclose competing future uses, how should MMS estimate "a fair return," especially if the competing uses would likely be public uses?

- The only activities with potentially competing "return" to the Government would be extractive development activities:
  - Oil & gas
  - Sand & Gravel
  - Stone (for rip rap etc.)
  - Oyster shells (for cement etc.)
  - Dredged material
  - Minerals mining
- "Fair return" to the MMS could be analyzed in part by reference to potential royalty revenues from operations listed above that would be likely to have occurred, but for the placement of offshore wind power installations. As discussed in the "Program Area: Payments & Revenues" section below, however, the better approach would be to adopt a concrete and predictable compensation approach.
- The following activities do not provide royalty revenue to the MMS and should thus not be included in such analysis:
  - Recreational boating
  - Routing of commercial ship traffic
  - View shed considerations
  - Commercial fishing
- "Fair return" for the public must also account for the positive public benefits of renewable energy development, including the following:
  - The inherent benefits of clean, emissions-free electricity should be considered
  - Enhanced electric system reliability resulting from greater fuel diversity
  - Congress, state governments, and other public entities see the importance of encouraging the development of wind energy through mechanisms such as Renewable Portfolio Standards and the renewable energy Production Tax Credit (PTC).
- More specifically, any governmental revenues that would have accrued, but for the renewable energy project, should be considered as one factor to be balanced against the public interest benefits that the project would bring, pursuant to a comprehensive "public interest" balancing test as currently used by other agencies and as discussed in Question #8 below. Such a decisional standard would appropriately recognize that the generation of governmental revenue was not the primary purpose of the Congress in encouraging alternative energy development on public lands or on the OCS.
- MMS and the Department of the Interior are required to encourage the development of renewable energy sources as indicated in President Bush's 2001 National Energy Policy and the subsequent Energy Policy Act of 2005.

Question #4. What constitutes a geographical area of interest?

Two potential interpretations of this question are below:

- The entire OCS, where estimated economically viable wind resources overlay:

  - Reasonable proximity to viable shoreline cable crossing
  - Interconnection with a utility transmission system.
  - Water depths within the economic and technical reach of a developer.
  - Ocean floor parameters that allow for construction of foundations within the economic and technical reach of a developer.

- For a proposed project lease area, the size needs to be at least large enough to allow for enough turbines to amortize the exceptionally high costs of running the transmission cable(s) to shore and then interconnecting with the land-based utility grid system, among other project costs. Given that a development company would first get a Wind Resources Evaluation Lease, the area would also need to be large enough to allow for flexibility when placing the turbines given the data collected. A minimum of 30 square miles would be needed.

Question #5. **What assessments should we require prior to competition?**

- It is not feasible, and has the effect of turning away qualified bidders, if the MMS were to require potential bidders to conduct individual, pre-bid resource and site assessments (other than a review of publicly available information) prior to bidding, since the undertaking is far too expensive and often requires a multiple years of study.
- As is common, the MMS should pre-qualify potential bidders to ensure that they are capable from a technical and financial perspective. See the relevant portions of the BLM policies in this regard.

Question #6. How should MMS structure the competitive process and the application process used to issue OCS access rights? Should MMS auction access rights or engage in direct negotiation?

- The process should indeed be multi-phased, but designed specifically to remove from consideration unqualified or speculative participants and encourage the truly qualified to continue with the selection process. MMS should pre-qualify companies, as indicated in Question #5.
- It is economically infeasible for a wind project developer to work to gain access rights in the OCS for resource evaluation purposes if project development rights are later auctioned off in a competitive bidding arrangement.
- Allow developers to propose projects as above sign a Wind Resources Evaluation Lease with provisions that would allow conversion by the developer to into a Wind Power Production Lease at the end of the evaluation term.
- Actions that would <u>not</u> spur the development of offshore wind energy:
  - Governmental offering of blocks or general zones of lease access, since for the current stage of offshore wind development, not many economically-feasible sites exist using current technology and these must be identified on an individual site basis; blocks of lease access could in the future be appropriate when offshore wind technology develops further, such that multiple sites within an identified area would be likely to viable.
  - Any programmatic review of resource information that would impede expeditious development of viable sites, or delay the review of pending applications, while the programmatic review was being completed.

Question #7. Should MMS take a broad approach to developing a program, or should efforts be targeted to specific regions?

- Take a broad approach, understanding that the industry should be allowed to identify propose sites for development in the near-term.
- At this early stage of the offshore industry, the best role for MMS is to provide the generic framework to allow development and individual permit review on an expedited basis. Dividing up the OCS regionally would simply complicate the process and could exclude viable sites and frustrate the entrepreneurial initiative needed to advance the industry. What the industry needs at this stage is simply the expeditious review of individual permit applications, rather than the development any governmental development program. Notably, Section 388 of the Energy Policy Act simply calls for the MMS to promulgate any regulations necessary to its permitting function, and the development of any "program" should be of secondary concern, perhaps best considered after MMS and the industry has gained some greater degree of experience.

Question #8. How should MMS consider other existing uses when identifying areas for access?

- The MMS should adopt a "public interest review standard" when weighing the likely benefits versus the likely detriments of any proposed alternative energy project on the OCS, similar to the standard that is used by the Army Corps of Engineers. See Section 10 regulations of the ACOE at 33 CFR 320.4(a)(1). The standard of the Corps' regulations provides, in part, as follows:

  > "The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest. Evaluation of the probable impact that the proposed activity may have on the public interest requires a careful weighing of all those factors, which may become relevant in each particular case. The benefits which may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments."

  The regulation then goes on to list numerous factors, including alternative potential uses, to be included in the ultimate balancing decision. Such a standard would thus include existing uses, along with all other relevant consideration, as part of an overall balancing of factors that could impact the public interest either adversely or positively.

- If there is an existing, on-going operation in place at the time a wind energy project is proposed, the competing use may conceivably outweigh a wind project. Such factors should, however, be evaluated in the comprehensive balancing of all relevant considerations pursuant to the public interest standard, as noted above. However, if there were only the potential for a competing use that would be incompatible with a wind project, then any public interest detriment would be far more speculative and should be afforded correspondingly lesser weight versus the benefits inherent in wind energy projects in the evaluation.
- It should also be noted, however, that offshore wind projects are often fully compatible with other uses. The potential degree of conflict should be considered as part of the public interest balancing in each case.
- MMS should also recognize the potential benefits for fish aggregation devices and artificial reefs from offshore wind energy structures.

Question #9. How should MMS balance existing uses within an area with potential wind and current energy projects?

- As an initial matter, any potential detriment resulting from potential conflict with existing uses should be considered and balanced along with the aggregate of likely public benefits and detriments pursuant to a "public interest" review standard, as discussed in Item 8 above. As a general comment, however, precedent exists that demonstrates multiple use of an OCS tract by unrelated entities. That being the case:

Balance with O&G or Mining Operations

- Area changes in wind resource and ocean floor conditions within an OCS lease tract may be gradual and allow for the flexible placement of wind power generation structures in such a way so as to promote harmony with other operations on the same OCS tract.

Balance with other Renewable Energy Operations

- Ocean current energy projects, by their nature, are not disruptive to wind power generation projects.
- Ocean current energy projects rely on a "choke-point" through which an ocean current flows at elevated velocity for turbine/generator set placement. Unless a wind power installation is placed in such a way so as to disrupt the up-stream ocean current that in turn reduces the flow through the choke point, it should not be detrimental.
- Generally speaking, any disruption to current flow by a wind turbine installation diminishes rapidly down-stream from the structure. Spacing considerations relative to turbine placement in the same general area between the two technologies should be an issue that can be successfully arranged.

- Wind power and ocean current power generation projects should find harmony in co-development on and OCS lease. If accommodations cannot be discovered, then MMS must decide based on the overall balancing of the public interest review standard, with consideration to include:
  - Maturity of the technology
  - Relative quality of the resource – wind or ocean current
  - Project revenue to the MMS
  - Viability of the bidders/developers

Question #10. Should MMS require permits for collecting data from vessels? Should we consider this information proprietary? What criteria should we use for holding the information proprietary?

- There is no need for MMS to require permits for vessels, which would be a further potential for delay and complication. Further, because vessels are not a structure attached to the OCS, such activities are beyond the scope of the OCSLA, as amended.

- Data collected during the Wind Resources Evaluation Lease must be proprietary to the company gathering the information, as has been recognized by the BLM. It would be a serious impediment to investment if proprietary information, obtained at great expense, time and risk, were to be released to the public. If that company decides not to move forward with the development of a project, the information could then be public or at least available to other pre-qualified bidders.

Question #11. What criteria (e.g. environmental considerations, energy needs, economics) should MMS consider in deciding whether or not to approve a project? What criteria should MMS consider for different competing projects (i.e. wind versus current) for the same site?

- MMS should adopt a public interest review standard that considers and balances all likely detriments and benefits to the public, as discussed in Question #8 above. It should thus consider factors including the general public interest in the development of renewable energy sources, the importance of fuel diversity, and the benefits of clean, emission-free energy.
- With respect to internal profitability of private entities, however, many complex and often unpredictable factors, and their interrelation, determine the future economic profitability of any project. These issues include the highly competitive and volatile wholesale electric power markets, the applicant's own business strategies for marketing power and tradable attributes (which strategies will often change in reaction to unforeseeable market developments) and the applicant's own business acumen. Profitability will also depend upon the applicant's own internal financial and tax strategies, including its plans to fully realize the potential benefits of incentives such as the PTC. It would thus be extremely difficult for MMS to undertake a meaningful projection of a project's future profitability.
- The MMS should accordingly adopt the economic review standard of the Army Corps of Engineers under its Section 10 regulations at 33 CFR 320.4(q) ("Economics"), which presumes that projects proposed by private enterprise will be economically viable, as follows: "When private enterprise makes application for a permit, it will generally be assumed that appropriate economic evaluations have been completed, the proposal is economically viable, and is needed in the marketplace."
- Finally, the potential profitability of OCS generating projects will be carefully scrutinized by the project finance community, which will allow projects to proceed only if they can be shown to present commercially acceptable level of financial risk over the full term of project debt financing, which will typically be in the range of 20 years. In today's restructured wholesale power markets, private entities in the financial community are best suited to evaluate the myriad of complex factors that could affect the potential profitability of proposed projects.

Program Area: Environmental Information, Management & Compliance

The issue of the environmental impacts associated with wind energy projects should not be considered without also accounting for the benefits, or the harmful impacts offset, by developing and using wind energy.

In the face of traditional energy generation's increasing challenges, clean, fuel-free wind energy can offer some help: wind energy produces no emissions, stabilizes energy prices, and provides electricity for our escalating needs. Like all human invention, wind energy has some impacts; but the choice is not a simple trade-off between wind and nothing. Our society, even with increased energy efficiency, demands a steadily growing amount of electricity. And if some of that new electricity does not come from wind, it is likely to come from another source with far more damaging environmental consequences.

However, wind energy projects both on- and offshore will have some site-specific effects. Therefore, it is important that the appropriate site-specific studies be conducted to best assess risk to potentially affected species. It is not appropriate, however, for wind projects to be required to assess cumulative impacts to an extent in excess of that required for other forms of OCS development. Further, as discussed above, the number of commercially viable wind sites on the OCS will be sufficiently limited for the foreseeable future, such that it is highly unlikely that any geographic area of the OCS will include multiple project sites in a proximity that could result in cumulative adverse effects within the meaning of the National Environmental Policy Act (NEPA). Those questions should be addressed at a site-specific level only.

Wind project developers on land routinely conduct pre-construction surveys (as referenced in the BLM wind policies) to understand a project's risk to wildlife at that site. It is reasonable to require site-specific studies for offshore wind projects as well. However, there will always be uncertainty with regard to project impacts, and truly no amount of pre-construction study will ever completely suspend the ambiguity over post-construction impact, at least in the early stages of the industry. AWEA recommends thus that MMS (i) determine the scope of study on a project specific basis based upon the facts of each case, and (ii) employ the concept of adaptive management that other agencies are now considering (as discussed in greater detail below in Question #16) in order to recognize and constructively address residual factual uncertainty.

For OCS wind projects, an Adaptive Management Plan could predict some specific level of potential impacts of the proposal that would be deemed a significant event. Then, if during operational and post-construction monitoring, those impacts were exceeded by a set amount, defined operational responses (which would be structured so as to allow financial community to evaluate the aggregate potential operational limitation) could be triggered. This approach allows a prescribed path to deal with inherently uncertain future developments in a responsible and constructive manner, and avoids the unrealistic assumption that any degree of pre-construction study will definitively quantify all future events. See Question #16 below.

Question #12. What types and levels of environmental information should MMS require for a project?

- The National Environmental Policy Act (NEPA) already provides for a scoping process needed for environmental reviews.
- MMS already provides some baseline environmental data for oil and gas development, and AWEA requests that the same be done for wind energy, in a way that does not impede the interim review of individual applications:
  - Ocean currents
  - Seafloor depth, grade, material composition
  - Sub-seafloor geology, sampling, and evaluation (for preliminary foundation determination – part of a developer's bid)
  - Location vis-à-vis ship traffic lanes
  - Location vis-à-vis migratory bird flight patterns
- MMS should <u>not</u> create blanket conditions for specific kinds of studies, such as an across-the-board requirement for three years of 24-hour radar data collection. Requests should be reasonable, site-specific, and aimed at answering specific questions, not a rigid one-size-fits-all requirement. For example, in the Record of Decision of the BLM's land-based wind program issued in December of 2005, the BLM declined to adopt rigid avian study requirements and left the study particulars to be determined on a project-by-project basis: "Scientifically rigorous avian and bat use surveys shall be conducted; the amount and extent of ecological baseline data required shall be determined on a project basis." MMS should do the same, and be guided in each case by the informational requirements as defined and limited by the applicable provisions of the NEPA and other statutes defining informational standards.
- Areas of information MMS might pursue regarding an OCS wind application:
  - Impact of foundation installation
  - Impact on migratory bird flight patterns
  - Impact on local fisheries

  - Benefit as Fish Aggregation Devices (FADS)?
- Impact of workboat/helicopter traffic to service the wind turbine generators
- Impact of sub-sea power cables
- Impact of shoreline cable crossing

- MMS should consider a limited range of reasonable alternatives that a project proponent should be required to consider under NEPA. For example, it is not reasonable to compare the impacts of an offshore wind facility to a wide variety of other land-based power plants. In light of Section 388 of the Energy Policy Act and the related recognition of the importance of OCS energy resources, the MMS should regard the development of OCS renewable resources as a separate and independent purpose important to the national interest, such that the range of reasonable alternatives to an OCS wind proposal would be properly limited to other alternatives located on the OCS.

Question #13. What types of site-specific studies should MMS require? When should these studies be conducted? Who should be responsible for conducting these studies?

- Site-specific studies could be similar to those required by the Bureau of Land Management.
- The requirements contained in the 3800-page Cape Wind Draft Environmental Impact Statement are an example of an excessive exercise aimed at delay and would halt future offshore wind development if required from every project.
- Attached in Appendix A and B are AWEA's comments to the U.S. Fish & Wildlife Service's Interim Guidance to Avoid and Minimize Wildlife Impacts from Wind Turbines ("Interim Guidance"). These comments detail many of the drawbacks associated with requiring specific studies or measures at sites without regard for the site-specific issues. AWEA strongly urges MMS not to adopt the Interim Guidance or specific parts of it because of industry's major concerns with the document. Also, when the Interim Guidance was drafted, it did not apply to offshore wind projects, so it should not be made to do so now.
- MMS should also determine the scope and amount of study in a way that assures the timely and cost-effective regulation that was plainly intended by the Congress. The Council on Environmental Quality (CEQ) similarly indicates that the NEPA process should not be misused as a tool for blocking projects by delay alone. In particular, CEQ's regulations at Section 1502.7 state that an Environmental Impact Statement (EIS) "shall normally be less than 150 pages and for proposals of unusual scope or complexity shall normally be less than 300 pages," and the CEQ's 40 Questions Release at item 35 indicates that "The Council has advised agencies that under the new NEPA regulations even a large complex energy project would require only about 12 months for the completion of the entire EIS process." The MMS must accordingly limit attempts to turn the review process into a delay tactic, and limit proceedings to those necessary to afford the "hard look" intended by the NEPA.

Question #14. **What should be the goals and objectives of monitoring, mitigation, and enforcement?**

- MMS should account for the evolving nature of the U.S. offshore wind energy and develop goals and objectives that allow for continuing innovation of the technologies needed. Any monitoring,

mitigation and enforcement goals should consider the higher costs in the near-term of developing this resource.

- MMS should aim for the greatest mitigation for maximum energy yield. The MMS monitoring, mitigation and enforcement objectives can largely be met in a responsible and predictable manner through adaptive management techniques of the type discussed in Item 16, below, so as to both foster the intended development of OCS resources and assure sound operations on an ongoing basis.

Question #15. What types of impacts are of concern? What are effective approaches for mitigating impacts? How can mitigation effectiveness and compliance with Federal environmental statutes be assessed?

- Given that any offshore wind development on the OCS would have to comply with NEPA, many of these issues would be addressed under that project-specific Environmental Impact Statement (EIS) or Environmental Assessment (EA) process.
- It is impossible to eliminate all doubt about a project's environmental impacts, so AWEA recommends that MMS acknowledge that uncertainty and incorporate the strategy of adaptive management into regulations, as discussed in Questions #11 and 16.
- Adaptive management at a wind project would identify thresholds and triggers for specific actions to be taken, such as defined and limited operational changes if a specific level of mortality is exceeded for a species of concern.
- It is important that the adaptive management strategies and remedies be identified prior to construction, using site-specific studies to inform the plan. It is also important that adaptive management have defined boundaries of cost or actions required, so that developers and the financial community can have predictable expectations of what may be asked of a project.
- Site-specific information is the key to effective identification and mitigation of possible impacts from a project.
- Public involvement is critical early in the process to identify potential issues at a site.

Question #16. What regulatory program elements lead to effective enforcement of environmental requirements?

- AWEA strongly urges MMS to adopt polices of adaptive management in order to address the inherent uncertainty of future events and provide for the effective enforcement of environmental provisions. In this regard, the NEPA Task Force Report to the CEQ provides the following rationale supporting the proposed adaptive management approach at Sec. 4.2.1:

  > "Using adaptive management, agencies might be able to enhance environmental protection and make cost savings when they implement proposed actions and mitigation strategies. *** Additionally, the traditional 'predict, mitigate, implement' environmental management model implies a high degree of certainty in the accuracy of the prediction step that often does not exist. The biological, physical, and social systems analyzed in the NEPA process are complex, which makes it difficult to calculate the potential impacts of an action with certainty. However, agencies are generally reluctant to admit that they cannot be sure of the impact of their proposed action. An adaptive management approach to the NEPA process helps to address this uncertainty and to mange any associated environmental risk."

- Permit conditions could include site-specific monitoring requirements.
- Ongoing O&M conditions could also be included within either leases or permits.

Question #17. How should environmental management systems be monitored (by the applicant, the MMS or by an independent third party)? What should be the MMS roles versus the roles of industry for ensuring appropriate oversight and governance?

- If industry would be responsible for the cost of this type of program, introducing a third-party review body would greatly increase costs.
- One standard process already used throughout the power industry is Internal Environmental Compliance Auditing. The company submits a plan for self-auditing and regular environmental reporting, as is described in more detail below:

  MMS should require developers to employ environmental auditing practices, including self-reporting and certification to MMS. Environmental assurance consists of activities established to evaluate environmental performance, verify compliance with company policy and legal and regulatory requirements, and communicate results to corporate management. It is one element in an effective environmental management system established to direct and control the fulfillment of an organization's environmental responsibilities.

  The principal mechanism for verifying environmental assurance is the environmental audit. An environmental audit may be defined as a management tool comprising a planned and systematic, documented, periodic and objective evaluation of the performance of the organization, management systems and equipment designed to protect the environment with the aim of: 1) facilitating management control of environmental practices; and 2) assessing compliance with existing environmental regulatory requirements and company policies. The audit program needs to be consistent with the ASTM E2107 standard, Standard Practice for Environmental Compliance Regulatory Audits.
  (http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/E2107.htm?E+mystore)

  The objectives of the Environmental Auditing Program designed to accomplish the following:

  - To assess the developer's compliance with federal, state and local environmental laws and regulations.
  - To evaluate the effectiveness and efficiency of the developer's environmental management systems.
  - To identify environmental risks beyond regulatory requirements, providing evaluations of the developer's actual and potential environmental exposure.
  - To transfer environmental best management practices internally.
  - To assess the appropriateness of resources devoted to assuring continued environmental compliance.
  - To provide corporate management with information concerning environmental compliance status and associated exposure.
  - To assess and increase employees' awareness of environmental requirements.

Program Area: Operational Activities

The European experience with offshore wind energy should be looked upon to guide American efforts. Europe currently has about 600 MW of offshore wind energy capacity in operation. The standards and requirements for offshore wind energy projects in Europe should be invaluable to MMS as this program is developed. AWEA strongly recommends that MMS consult with the appropriate European agencies to gain additional understanding of these standards and possibly adopt similar standards. Unless and until the European standards are adopted, the U.S. offshore wind industry could be on hold for years waiting for new standards to be developed.

Question #18. What options should MMS consider as alternatives to facility removal? Are there unique issues (such as liability) associated with those options?

- As is common today on land, project proponents should be required to submit a decommissioning plan.
- Removal would be the case only if no "repowering" opportunities are available. In the wind energy industry, repowering refers to the situation where older turbine technology is removed and replaced with newer, more efficient turbines. At some of the earliest wind projects in California, repowering removes 10-15 old turbines and replaces them with one larger and more efficient machine. Given that offshore wind energy technology is still developing, repowering may be a real option for projects in the future.
- Assuming that the turbine/generator and tower sets will be decommissioned and removed from the lease at the end of the projects commercial life, a few possibilities relative to the foundations exist:
  - As with oil & gas offshore structure abandonment, wind turbine generator structures may be cut and recovered below the sea floor so as not to pose a hazard to navigation.
  - Wind turbine generator foundations may be *appropriately delineated and marked* and allowed to remain either at a certain height above sea level or cut and recovered at a depth that will not constitute a hazard to navigation to take permanent advantage of the installations as Fish Aggregating Devices.
  - Alternative, follow-on uses may be developed for wind turbine generator foundations as the case may be.

Question #19. What engineering challenges should be considered when operating in an OCS environment?

- Offshore wind technology faces numerous engineering challenges. An obvious point is how offshore wind turbines differ from offshore oil and gas platforms. Perhaps not so obvious is how the American experience will likely differ from the European experience so far due to significant differences in the bottom substrate conditions and rapid drop-off of the OCS. These challenges and others indicate that there will probably be fewer feasible sights off American coasts than exist off of Europe's shores.
- Current offshore wind system designs have been adapted from land-based versions and deployed in shallow waters off northern European coastlines over the past dozen years. To date, monopile and gravity foundation designs have been suitable for this environment. Offshore wind technology is evolving toward larger-scale and fully marinized systems that may someday be deployed in a wider range of water depths across a wider range of geographical areas, but such

future developments remain speculative and will not be commercially viable in the foreseeable future.

- Offshore wind systems must be tailored to the marine environment. For the support structure, variable site conditions in terms of water depth, wave spectra, currents, sea bed geology, and other factors will require the availability of multiple design options, each one suitable to a particular class of design criteria. Offshore system designs are in the early stages of development—with new technologies emerging—that will need to be fully tested and successfully demonstrated before an offshore wind industry can emerge and realize its potential.

- Designs that ensure structural integrity while minimizing the amount of materials/energy invested in are critical to the economic viability of offshore projects. Moreover, these structures must also be designed to minimize their impacts (during construction, operation, maintenance and decommissioning) on the marine habitat, organisms, migratory birds and mammals.
- Maintenance poses an additional challenge. Ocean conditions often prevent safe access by boat or helicopter without seriously endangering personnel. Engineers will be challenged to design and build turbines that are extremely reliable and minimize the need for unscheduled onsite maintenance.
- Increasing the efficiency of transmission between the wind generators and the energy service platform (ESP) and the ESP and the grid will be another engineering challenge/goal.
- Grid integration is another major engineering challenge. Assuming that offshore wind farms will be considerably larger than their onshore counterparts (especially in the Northeast), wind farm developers and operators will need to work closely with the operators of the regional grid to ensure that the large amounts of variable electricity they generate can be accommodated.

Question #20. What safety issues exist when operating an energy production facility on the OCS?

- Many, if not most of the same safety concerns associated with construction, operation and maintenance of offshore oil and gas rig construction apply to offshore wind projects.
- Issues of importance surround normal oil & gas offshore operations, to wit:
    - Supply boat, work boat and crew boat operations
    - Offshore crane operations
    - Personnel transfer from boat to facility
    - Helicopter operations
    - Weather shut down
    - Evacuation procedures
    - Cold water survivals
- Maintenance offers some especially challenging issues during – in particular attempting to disembark from boats onto the turbine during choppy sea conditions.
- Other safety issues include the possibility of sea going vessels colliding with wind turbine towers and/or Energy Service Platform.
- Care must be taken to ensure that wind farm design and positioning pose no threat of interfering with aviation radar or flight paths.
- The MMS should look to the Guidelines developed and published by the British Wind Energy Association (BWEA). BWEA developed the Guidelines, created course curriculum, and

instituted training for all personnel involved with the operation and maintenance of offshore wind turbine generators. Their experience is based on the offshore oil & gas operation and maintenance experience in *extreme* conditions of the North Sea.

- The American Wind Energy Association is working to publish and distribute to the industry Safety Guidelines which are envisioned to encompass offshore operations
- MMS should avoid recommending actions that are reckless and unworkable, such as some suggestions for the currently proposed offshore wind projects to have permanently-manned barges at project sites to monitor wildlife.
- Further, workboat, supply-boat, and crane safety requirements currently being enforced by the MMS on the OCS for oil & gas ventures should be applied in the same manner.
- Finally, progress reporting should be instituted for all OCS ventures for lease compliance purposes as well as to ensure safe practices.
- Wind turbines offshore could also have some positive safety effects, namely:
    - Safe pull-out for smaller vessels in trouble
    - Surveillance cameras in turbines for homeland security or other purposes
    - Aids to navigation

Question #21. How should operational activities be monitored (e.g. annual on-site inspections with verification of operating plans)? Is there an appropriate role for the applicant and independent third party certification agents? Describe existing models that could serve as a prototype inspection and monitoring program.

- Requiring third-party verification and monitoring will greatly increase costs and adversely affect project economics.
- Conventional power generation experience points to a very successful and industry-wide self-reporting program, and there is no apparent reason for a different rule in this case.
- Current regulations already cover some common issues for offshore operations, such as having a spill response plan.
- Some operational monitoring can be done remotely, as is the case with wind projects onshore.

Question #22. Are there special considerations that MMS should examine in developing an inspection program that covers a diverse set of renewable production facilities? If so, what are they?

- The scope of activity for renewable energy facilities will be much less than what is required for oil and gas programs. Wind projects require less labor and fewer trips out to turbines, and the environmental concerns do not include large oil spills and other significant impacts.

Program Area: Payments & Revenues

As MMS has recognized in its ANPR, Congress has left MMS considerable discretion to determine what constitutes a "fair return" to the United States and to structure of the mechanisms designed to ensure such fair return. Section 8(p) of the Outer Continental Shelf Lands Act, 43 USC 1337 ("OCSLA"), as added by Section 388 of the Energy Policy Act of 2005, relating to alternate energy-related uses on the Outer

Continental Shelf, requires the Secretary to ensure that any activity carried out provides for "(H) a fair return to the United States for any lease, easement or right-of-way under this subsection." 43 USC 1337. The OCSLA does not define what constitutes a "fair return," but delegates the details of any fees or charges to the Secretary: "[t]he Secretary shall establish royalties, fees, rentals, bonuses, or other payments to ensure a fair return to the United States for any lease, easement, or right-of-way granted under this subsection." Id. Finally, for all but the pre-enactment projects identified at section 388(d), MMS must issue such leases, easements and rights-of-way on a "competitive" basis, unless the Secretary determines after a public notice that there is no competitive interest.

In adopting compensation provision, however, MMS should also be mindful of other policy statements in OCLSA regarding the development of resources on the outer Continental Shelf. Specifically, OCSLA affirmatively encourages the development of such resources by declaring the OCS to be:

> a vital national resource reserve held by the Federal Government for the public, ***which should be made available for expeditious and orderly development***, subject to environmental safeguards, in a manner which is consistent with the maintenance of competition and other national needs.

43 USC 1332 (emphasis added). Thus, the Secretary must balance three potentially competing interests: (1) maximizing the aggregate amount of revenue generated by such royalties, fees, rentals, bonuses, or other payments; (2) ensuring expeditious and orderly development of OCS resources; and (3) generally issuing leases, easements and rights-of-way on a competitive basis. AWEA believes that a wise regulatory program will result in the achievement of all three aims, thereby maximizing the public benefits from the development of an offshore alternative energy industry.

As MMS has recognized in Question #24, the offshore alternative energy industry is in its infancy. Regardless of the form of royalty, fee, and rental rates applied per project, the offshore alternative energy industry will in the aggregate generate the maximum amount of revenue only if it is allowed to fully develop and reach commercial maturity. Therefore, the payment structure should recognize the nascent state of the industry and be designed to encourage the development of these activities until the technologies are better established.

In this regard, MMS should review the policies of other nations that waive any royalties, fees, rentals, bonuses, or other payments during the first ten years of operation of an offshore alternative energy project. The provincial government of British Columbia has taken this approach in a recently adopted program that applies to both onshore and offshore wind projects constructed on Crown land. The British Columbia program provides for rent and royalty relief during the first ten years of production by the establishment of an initial rent-free "grace period." See British Columbia, Ministry of Energy, Mines and Petroleum Resources, Wind Power Policy Supports Alternative Energy Industry, *available at* http://www2.news.gov.bc.ca/news_releases_2005-2009/2005EMPR0046-000928.pdf (October 14, 2005). Similarly, Denmark recognizes the public interest benefits provided by the offshore alternative energy industry by not requiring lease or royalty payments for offshore wind projects. See Danish Energy Authority, Denmark, Tender Conditions Subject to Negotiation Concerning Windfarm Concession at Rodsand, Denmark (13 October 2005) *available at* http://www.ens.dk/graphics/Energiforsyning/Vedvarende_energi/Vind/havvindmoeller/Udbud/Tender_conditions_Roedsand_ny_udgave.pdf (2005). [1] Notably, Congress has created similar royalty relief programs in order to encourage the production of oil and natural gas from deep-water sites. See 43 USC 1337.

MMS should also consider appropriate incentives and regulatory certainty by creating a royalty and rental program that establishes limited payment obligations that can be easily calculated by potential project developers and investors. After year ten, MMS might apply a royalty rate of 1% to 2% of gross revenue. In both rounds of the United Kingdom tender process for offshore wind sites, the Crown Estate has set a royalty rate of £0.88/MWh, and amount that was expressly designed and intended to equal 2% of gross revenue. See the Crown Estate, United Kingdom, Round 2 Tender Procedures & Criteria *available at* http://www.thecrownestate.co.uk/87_round_2_tender_procedures_criteria_04_02_08.pdf (2002). Likewise, Ireland has provided developers with the option of selecting a fixed lease payment of €3800 per MW or 2-2.5% of gross revenue. See Department of Communications, Marine and Natural Resources, Republic of Ireland, Offshore Electricity Generating Stations - Note for Intending Developers (revised May 2001) *available at* http://www.dcmnr.gov.ie/Marine/Coastal+Zone+Management/Forms+and+Downloads/ (2001). It is also noteworthy that Congress has specified similar fixed royalty amounts for the offshore oil and natural gas leasing program. See 43 USC 1337.

An alternative to this type of royalty payment that AWEA would support would be a straight fee for the lease of the seabed, similar to the BLM lease rate for wind projects on BLM-managed land.

Finally, for those leases, easements and rights-of-way that are to be issued on a competitive basis, the MMS might use a bonus bid program that establishes bonus payment obligations (in addition to any royalty arrangements) that can be easily calculated by potential project developers and investors. After year ten, MMS could apply a per MWh bonus to each project based on the project developer's bonus bid. It may also be noted that Congress has provided for a similar bonus bid system for the offshore oil and natural gas leasing program at 43 USC 1337.

Question #23. What should the payment structure be designed to collect? Should payments be targeted at charging for use of the seabed? Should payments try to capture the opportunity costs of other activities displaced by the activity? Should the payment structure be designed to capture a portion of the revenue stream, and if so, under what circumstances?

- *Unlike* extractive development leases, where the MMS acts as the "owner" of the mineral wealth located on or beneath the seafloor (which includes activities surrounding contracting for a developer, and collecting royalty relative to the value of the mineral extracted and sold), the MMS does not own the wind resource above the ocean surface, so that there is no removal of a public resource for which a cost must be "collected."
- Wind energy projects require subsidies in the form of the renewable energy Production Tax Credit (PTC) to compete with fossil fuel generation. Therefore, any payments or royalties collected should be small and account for this fact.
- BLM uses a combination of a modest flat rate for leasing the land and a royalty on top of that. While potentially feasible in the long-term, requiring royalties of offshore wind projects in the near-term will likely discourage developers from pursuing projects, possibly halting continued development of the technology here in the U.S. and we direct you to the more extensive discussion and recommendations set forth in the "Program Area: Payments & Revenues" section above.

Question #24. Offshore renewable energy technologies are in their infancy. Should the payment structure be designed to encourage the development of these activities until the technologies are better established?

- Yes. See the "Program Area: Payments & Revenues" section above for European recognition of such infancy.
- If MMS believes that offshore wind energy is something to support, the agency's position should recognize that a longer-term, if not permanent, extension of the PTC, as well as other financial support, is required.

Question #25. What methods are used by the renewable energy industry to quantify the risk and uncertainty involved with estimating the size of a renewable energy resource, and evaluating its profitability?

- The wind resource on an OCS lease tract can be estimated initially using generalized wind data that is available to the MMS. This generalized information should be refined by the MMS and placed in the data room for pre-qualified bidders to examine.
- Once a bidder has been selected and a lease agreement has been signed, the Lessee will then need to make a much more detailed evaluation of the wind resource on the OCS tract by constructing an ocean floor foundation and erecting an instrumented, temporary, meteorological tower – ideally with the instruments at the hub-height of the proposed wind turbine generators (e.g., 80 meters). Wind data will be collected over an appropriate period (e.g., typically at least1 year minimum -- potentially a multi-million dollar undertaking)
- Computer models will be employed to further refine the parameters of the wind regime on the OCS tract.
- Oscillatory wind patterns will be applied to take into consideration yearly variations – all resulting in a fairly well defined wind resource.
- Conversion of the wind resource via the wind turbine generator's power curve is well known and allows the Lessee to forecast revenue over the reasonable life of the project (e.g., 20 years).
- As noted above at Question #11 and elsewhere, however, the wind resource is only one of the many attributes of any potential site that are critical to its potential commercial viability.

Question #26. What measures of profitability are commonly used as renewable energy investment decision criteria? How do bonus bids, rents, royalties, fees and other payment methods impact the profitability of these projects?

- As with most other project-based investments, the construction of a cash flow pro forma is an important tool. It allows the delineation of the projects operations and maintenance schedule vis-à-vis revenue income and debt service payments. The standard equity investment criterion that is derived from the cash flow pro forma is the Discounted Cash Flow Rate of Return – which allows comparison to alternative investments, whereas debt participation will turn upon debt coverage ratios calculated over the range of likely variable events. All project expense items, including rents, royalties and fees, would enter into such calculations.

Question #27. Are there economic models available to calculate the profitability of renewable energy proposals?

- No. As is common with most project development and financing activities, the cash flow pro forma (the financial model) for each proposal is held in high confidence by all developers/bidders since the assumptions illuminated therein represent the competitive edge of a participant. As such, the financial model for each project is unique, constructed in-house, and is highly proprietary. As set forth in detail above at Item 11, the financial profitability of any proposed projects involves the technical and financial evaluation of wide range of factors including engineering, construction and procurement costs, operating costs, and projections as to the future performance of the often volatile wholesale power markets, as well as the internal financial and business strategies of the applicant. For this reason, it would be impracticable for MMS to attempt to predict the future profitability of any proposal. Accordingly, AWEA strongly urges MMS to structure compensation streams in a way that do not require such a determination, as set forth above in the "Program Area: Payments & Revenues" section.

Question #28.Increased reliance on renewable energy offers both economic and environmental benefits. What are the public benefits to society and do they differ from market driven benefits

- The Energy Policy Act of 2005 encourages the production of energy in the U.S., and wind energy should be part of that portfolio. In particular, Section 211 of the Act states a "view of the Congress" that the secretary of Interior should authorize within 10 years 10,000 MW of non-hydro renewable generation on Federal lands – an aggressive national goal to which OCS resources can contribute.

More generally, public benefits to society include:

- Extends domestic gas/coal supply
  - *No fuel resource depletion*
  - *Moves power plant siting away from populated areas*
  - *New energy technology development*
- Diversifies nation's energy portfolio
  - *Important during times of drought*
  - *Important during times of high fuel prices*
  - *National defense strategic reserve, reducing reliance on imported fuels in times of hostilities with fuel exporting regions*
- Reduces thermal cooling water needs and impacts
  - *Decreases water demand for cooling water needs at existing thermal generation plants*
  - *Decreases the release of thermal cooling water.*
- Relief from long-term unstable climatic conditions
  - *Smoothes good/bad year fluctuations vis-à-vis hydropower availability*
- Enhancements to market stability
  - *Wind power has a smoothing effect on demand for power generation fuels*
- Reduces pollution
  - *No air pollution*
  - *No water pollution (thermal or toxic)*
  - *No global warming pollution*
  - *Helps non-attainment areas*
  - *Minimal fuel transportation spill risks*
- Reduces environmental impact from mining or drilling for fuel

- Reduces vulnerability of energy systems to terrorism
    - *Wind plants are made up of many individual generators; destroying one or even several has little effect*
    - *No public vulnerability (e.g., breaching of dam or nuclear containment)*

- Promotes numerous societal benefits and needs
    - *Marine science*
    - *Public education*
    - *Economic development*
    - *Tourism*
    - *Recreational fishing/ artificial reef development*
    - *Increased bio-diversity*
    - *Taxes/ PILOTS*
    - *Multi-use options (mariculture, cooperative ocean energy technologies)*

Market driven benefits include:

- No liability/costs associated with;
    - *SOx (≈$290/ton to $800/ton)*
    - *NOx (≈$2,200/ton)*
    - *particulates,*
    - *mercury*
    - *regional haze*
    - *greenhouse gases*

- No liability/costs associated with;
    - *flammable or hazardous fuels*
    - *high-pressure steam*
    - *make-up water*
    - *cooling water*
    - *nuclear waste handling, transport, & storage*
    - *plant waste/residue*

- No hidden long range liability
    - *coal -- black lung disease and other health-related costs*
    - *power utilities – PCBs & asbestos*
    - *class-action lawsuits from downwind population*

- No fuel resource extraction and transportation issues or costs

- Reduced exposure to changing oil and gas prices
    - *Unaffected by world oil prices and supply*
    - *Unaffected by world politics as it applies to oil producing countries*
    - *Unaffected by refinery outages or feedstock shortfalls*
    - *Unaffected by US oil & gas production rates or reserve determinations*

- Reduce exposure to more restrictive environmental standards
    - *Unaffected by implementation of tighter air & water quality standards*
    - *Unaffected by increasing costs associated with emissions compliance*
    - *Unaffected by penalties for emissions non-compliance*

- Security of power supply
    - *Not subject to fuel price fluctuations*
    - *Helps smooth fuel risk by expanding the generation portfolio*

- Extends domestic gas/coal supply
    - *No fuel resource depletion*

Question #29. In section 8 (p) of the OCSLA as amended by Section 388 of the Energy Policy Act, the Secretary must require the holder of a lease, easement or right of way granted under that subsection to furnish a surety bond or other form of security. What options should MMS consider to comply with this requirement?

- *Unlike* the surety bond or other security required for a fossil-fired power generation installation, the bond MMS should require for wind power generation projects need not cover such high cost remediation items as:
    - Removal of hazardous wastes
    - Removal and fuel and fuel containment structures
    - Removal of fuel delivery structures and systems
- The surety bond or other security should cover:
    - The cost of non-compliance with lease terms to the extent deemed necessary to the Secretary
    - The cost of decommissioning and removing the wind turbine generator and tower sets at the end of the lease term, to the extent required (see Question #18)
    - The cost of site restoration at the end of the lease term (see Question #18)
- The form of security other than a surety bond can include:
    - Performance bond;
    - Letter of Credit
    - Assigned interest-bearing annuity
    - Deposit in escrow or sinking fund
    - Insurance policy with MMS as Loss-Payee
    - Corporate guarantee (qualified entities only)

Coordination & Consultation

Question #30. While MMS considers this ANPR an appropriate start at consultation with interested and affected parties, what other efforts could be undertaken at this early stage of program development?

- It is critical for MMS to hold discussions with technically knowledgeable and experienced industry parties in Europe and the U.S. to gain an understanding of the potential and limitations of offshore wind energy technology, and the resultantly limited number of viable project sites on the American OCS in the foreseeable future. Indeed, such limitation should be fundamental to the MMS, as it is at the heart of fundamental differences from both the European offshore wind industry and the American offshore oil and gas industries.
- MMS should consider meeting with counterparts in Europe to gain more information.
- In any event, however, it is critical that no such efforts delay or obstruct the expeditious progress on individual project proposals.

Question #31. Should a broad approach be taken to developing a program or should efforts be targeted to specific regions with commensurate coordination and consultation?

- MMS should take a broad approach for consultation and not focus solely on specific regions.
- MMS should strive to create an efficient, standardized permitting regime for the entire country, not regionally specific. As noted above, what the industry needs at this initial juncture is the timely and efficient processing of project applications, and not any governmental development program, which may be based upon a false expectation over the short term potential in this nescient industry, and delay real progress on those relatively few sites that are viable today.

Question #32. Would the establishment of Federal/state cooperatives for targeted areas be useful? Similar to the process for OCS oil and gas program formulation, should we solicit comments on which areas of the OCS should be included or excluded from the program? After establishing where there is consensus in support of program activities, should coordination and consultation efforts be directed to those areas? Conversely, should such efforts be curtailed or abandoned for areas recommended for exclusion?

- MMS' role should be to develop a framework to evaluate an offshore wind project lease for a particular area for which an application is made, not to designate appropriate and inappropriate areas for development.
- Congress has already carefully considered and identified those OCS areas that should be categorically excluded from renewable energy development at Section 388(a)(p) of the Energy Policy Act, which excludes "any unit of the National Park System, National Wildlife Refuge System, National Marine Wildlife Refuge System, or National Marine Sanctuary System, or any National Monument." Any other areas should be open to consideration, on a case-by-case basis, under a public interest review standard, as discussed above.
- There is a real danger of conducting a long process to identify go- and no-go areas and then concluding with "developable" areas that cannot be feasibly developed. The identification of viable sites is best left to the acumen, innovation and risk analysis of industry.

Question #33. What are the critical stages (e.g. site evaluation, application, competitive sale) for consultation with affected parties?

- AWEA encourages public and affected party consultation for specific sites for the stages identified (site evaluation, application).
- Affected parties would include:
  - Any Co-redevelopers of the OCS lease area
    - Commercial shipping companies operating in the area
  - Recreational boaters
  - Residents in the view shed
  - Federal, state and local agencies overseeing the tidelands
  - Military agencies using the area for transit or exercise
  - Fisheries representatives
- States have a well-defined scope of authority over proposed offshore wind projects on the OCS through the Coastal Zone Management Act, as well as control over transmission lines that must cross state waters to reach the land-based electrical grids. States should not exercise more control over wind energy facilities than they do over fossil related activities on the OCS, as defined under the CZMA.

- Many states, especially in the Northeast, have energy facility siting boards to guide the siting of electricity generation projects. These bodies, which were legislatively created for the express purpose of making the always-difficult decisions regarding the siting of energy facilities, would be the best for consultation on these issues. Also, where a state energy facility siting board has approved associated facilities located within state jurisdiction, such an approval, and the related findings as to project need and other issues, should be afforded recognition and deference by the MMS.
- It may be appropriate for states to seek a combined review process with MMS. This would achieve the need for expedited energy project review (as stated in Executive Order 13212, http://ceq.eh.doe.gov/nepa/regs/eos/eo13212.html) and allow for input.

Question #34. Should procedures for consulting with interested and affected parties be codified in the regulations? In general? In detail?

- The minimal level of engagement could be detailed by MMS with specific timelines – otherwise it is not attractive to producers.
- The Army Corps of Engineers has consultation agreements with relevant agencies that include timelines. Timeliness is key.

Question #35. **What processes can MMS use to provide for balance between consultations and the time and burden to the projects?**

- Develop timely leasing and permitting schedules that include NEPA flexibility.
- Identify where interested parties can provide input.
- Provide a schedule for the process and the relevant time associated with each step.

Question #36. Are there specific aspects of the new ROW rule issued by the Bureau of Land Management that should be reviewed by MMS for consideration in its rulemaking?

- Yes, as discussed above, the BLM rule addressed is in many ways applicable to future development on the OCS and should be closely considered by the MMS.
- Notably, site-specific determination of the appropriate level of wildlife studies is a key aspect of the BLM regulations.

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[1] Project developers would have to pay rent for use of an electric service platform installed by the Danish Energy Authority.